

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
10 June 2004 (10.06.2004)

PCT

(10) International Publication Number  
**WO 2004/047716 A3**

(51) International Patent Classification<sup>7</sup>: C07C 49/217,  
A61K 31/12

Silvio Carbosa Street, Vila São Jorge Ward, 07111-010  
Guarulhos - SP (BR).

(21) International Application Number:  
PCT/BR2003/000177

(74) Agent: BEERRE ASSESSORIA EMPRESARIAL S/C  
LTDA; 3236, Barão de Itapura Avenue, Taquaral Ward,  
13073-300 Campinas - SP (BR).

(22) International Filing Date:  
28 November 2003 (28.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
PI 0207141-0 28 November 2002 (28.11.2002) BR

(71) Applicant (for all designated States except US): FUN-  
DAÇÃO DE AMPARO À PESQUISA DO ESTADO DE  
SÃO PAULO [BR/BR]; 1500, Pio XI Street, Alto da Lapa  
Ward, 05468-901 São Paulo (BR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SUÁREZ, José,  
Agustín Quincoces [BR]; 427, Barão de Tatuí Street  
Apt.41, Santa Cecília Ward, 01226-030 São Paulo - SP  
(BR). PESEKE, Klaus [DE]; Haselhof 1, Lichtenhagen,  
18107 Elmenhorns Lichtenhagen (DE). KORDIAN, Mar-  
cus [DE]; Zorenappelpweg 12, 18055 Rostock (DE).  
CARVALHO, João, Ernesto [BR]; 140, Emílio Ribas  
Street Apt. 104, Cambuf Ward, 13000-025 Campinas - SP  
(BR). KOHN, Luciana, Konecny [BR]; 12, Cristovam  
Bonini Street, Jd Proença Ward, 13096-040 Campinas  
- SP (BR). ANTÔNIO, Márcia, Aparecida [BR]; 13,  
Victor Zamberlim Street, João Aranha Ward, 13140-000  
Paulínia - SP (BR). BRUNHARI, Heloíza [BR]; 537,

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,  
CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,  
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,  
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,  
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,  
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,  
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:  
19 August 2004

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: NEW METHOD FOR THE PREPARATION OF 1,5-BIS(4-HYDROXY-3-METHOXY-PHENYL)-PENTA-1,4-  
DIEN-3-ONE AND DERIVATIVES WITH ANTITUMORAL PROPERTIES

(57) Abstract: This patent of invention reports the method for the preparation of 1,5-bis(4-hydroxy-3-methoxyphenyl)-penta-1,4-  
dien-3-one and derivatives with antitumoral properties: the sample denominated 37 compound was obtained with high yield and pu-  
rity with ultrasonic technique presenting cytostatic activity (growth inhibition) in the concentrations evaluated and cytotoxic activity  
(cellular death) from the concentration of 0,25 mg/mL against nine different types of human cancer cell lines. This compound has a  
LD50, equals to 8,54 g/Kg. That means this product can be considered itself as practically nontoxic. Doxorubicin, anticarcinogen  
medicine used as reference in all these tests, is a product extremely toxic (LD50 of 20 mg/Kg) and it does not inhibit the growth  
of Mama NCI-ADR cell line (the one that expresses the phenotype of resistance against multiple drugs), therefore our product pre-  
sented a strong cytostatic activity. Other derivatives also presented a strong cytostatic activity, specially the one denominated EHB1  
compound.

BEST AVAILABLE COPY

WO 2004/047716 A3